

## Passage 1

It's a sound you will probably never hear, a sickened tree sending out a distress signal. However, a team of scientists at the U.S. Department of Agriculture's Forest Service has recently heard the cries, and they think some insects also hear the trees and are drawn to them like vultures attracted to a dying animal.

Researchers hypothesized that these sound- actually vibrations produced by the surface of plants were caused by a severe lack of moisture. They fastened electronic sensors to the bark of drought stricken trees and clearly heard distress calls. According to one of the scientists, most parched trees transmit their plight in the 50- 500-kilohertz range. (The unaided human ear can detect no more than 20 kilohertz). They experimented on red oak, maple, white pine, aspen and birch and found that all make slightly different sounds. With practice, scientists could identify the species of tree by its characteristic sound signature.

The scientists surmise that the vibrations are created when the water columns inside tubes that run the length of the trees are cracked, a result of too little water following through them. These fractured columns send out distinctive vibration patterns. Because some insects communicate at ultrasonic frequencies, they may pick up the trees' vibration and attack the weakened trees. Researchers are now running tests with potted trees that have been deprived of water to see if the sound is what attracts the insects. "Water stressed trees also have a different smell from other trees, and they experience thermal changes, so insects could be responding to something other than sound", one scientist said.

**1- Which of the following is the main topic of the passage?**

- A. the vibrations produced by insects.
- B. the mission of the U.S. Forest Service
- C. the effect of insects on stress
- D. the sounds made by trees

**2- The word “them” in line 2 refers to**

- A. trees
- B. scientists
- C. insects
- D. vultures

**3- The word “ parched” is closest in meaning to which of the following?**

- A. burned
- B. dehydrated
- C. recovered
- D. damaged

**4- The word “plight” is closest in meaning to**

- A. cry
- B. condition
- C. need
- D. agony

**5- It can be inferred from the passage that the sounds produced by the trees**

- A. serve as a form of communication among trees.
- B. are the same no matter what type of tree produces them
- C. cannot be heard by the unaided human ear
- D. fall into the 1 - 20-kilohertz range

**6- The word “fractured” is closest in meaning to**

- A. long
- B. blocked
- C. hollow

D. broken

**7-Which of the following could be considered a cause of the trees' distress signals?**

A. torn roots

B. attacks by insects

C. experiments by scientists

D. lack of water

**8- The phrase "pick up" could best be replaced by which of the following?**

A. perceive

B. lift

C. transmit

D. attack

**9- All of the following are mentioned as possible factors in drawing insects to weakened trees EXCEPT**

A. thermal changes

B. smells

C. sounds

D. changes in color

**10- It can be inferred from the passage that research concerning the distress signals of trees.**

A. was conducted many years ago

B. has been unproductive up to now

C. is continuing

D. is no longer sponsored by the government